

Discussion Draft Evaluating the Conservation Strategies Proposed Approach

Purpose: The purpose of this evaluation is to assess each of the four Conservation Strategy (CS) Options approved by the Steering Committee to provide a basis for comparing their relative ability to achieve both ecological and water supply objectives. The evaluation will be largely qualitative, based upon the best professional judgment of individuals who are knowledgeable about the complex hydrology of the Bay Delta and the interplay of that hydrology with ecological and water supply parameters. It [may/will] also entail the use of some “rough” modeling of the four Options to enable a comparison of their relative ability to meet hydrologic parameters for ecological and water supply objectives. The purpose of this evaluation is to generate information to help the Steering Committee prioritize among these different structural options for use in the subsequent development of a more comprehensive conservation framework later this year.

Evaluation Criteria: The evaluation will start off with the criteria from the Conservation Element Bundles Evaluation (covering biological, planning, flexibility-durability-sustainability, and other resource impacts). SAIC will work with the Conservation Strategies Workgroup to identify if any modifications should be made to these criteria, and will winnow down those criteria as may be warranted, given the level of information available and the purposes of this comparative evaluation. The Steering Committee will approve the criteria to be used in the evaluation.

Flow Assumptions. For purposes of providing useful reference points from which to conduct this evaluation, SAIC will develop and use a “high-low” range of flow variables at different locations in the Delta in order to evaluate the relative ability of each option to meet both ecological and water delivery outcomes. These ranges may be expressed either as water volumes or flow targets such as # cubic feet per second, or as operational parameters such as “open/closed”, or physical location of a particular parameter (e.g. X2). These variables and locations are described in the *List of Flow Parameters to Support CS Options Evaluation*, which will be distributed separately.

These ranges of flow variables do not represent and are not intended to represent the actual flow characteristics that Steering Committee Members or their organizations may advocate as suitable and appropriate operational parameters for any particular conveyance option later during the planning process: they are merely to be developed by SAIC to aid in a comparative evaluation of the differing conveyance options at this early stage of the planning process.

The Steering Committee will approve the flow values to be used in the evaluation.

Conducting the Evaluation: The qualitative evaluation will consist of three basic components: examining the ability of each option to achieve a range of certain flow parameters; the ability of these flow parameters to enhance or retard certain ecological responses; and the effect of these options and their flow parameters on the ability to address other stressors in the Bay Delta system.

Secondly, the evaluation [may/will] undertake a rough modeling of the ability of these options to achieve both ecological and water supply hydrological parameters under differing water years in order to assist the Steering Committee in its evaluation of each option.

SAIC will assemble experts within their subconsultant team who are knowledgeable about the hydrological characteristics of the Bay Delta and the inter-relationships of Delta hydrology to relevant ecological and water supply parameters. These experts have significant familiarity with the several widely used hydrological models for the Delta.

These experts will evaluate qualitatively the ability of each of the four options to achieve the range of flow variables described above under different water year conditions. They will then correlate the ability of meeting these ranges with the ability to contribute to both biological and ecological parameters on the one hand and water supply parameters on the other, using existing information and their best professional judgment. As noted below, they will also correlate the ability of meeting these ranges with the opportunities to address other habitat objectives and other factors that may be limiting the ecological productivity of the Delta (e.g. toxics; invasives, etc). In conducting this evaluation, the team will also utilize the stressor prioritizations that it will be developing as a separate Task. SAIC will also use the DRERIP conceptual models if available.

In addition to this qualitative evaluation, the Team [may/will] undertake several modeling runs to evaluate quantitatively the relative ability of each of the four conveyance options to achieve the range of flow parameters, and how that ability might also affect other biological and water supply model outputs. This rough modeling will provide the Steering Committee with preliminary quantitative information about the relative frequency with which each of the four conveyance options may achieve certain hydrological parameters for both conservation and water supply perspectives under different water conditions. SAIC anticipates that this preliminary modeling would be supplemented later in the planning process with more finely calibrated modeling by which to evaluate the performance of the larger conservation strategy (and alternatives to it) once it is developed by the Steering Committee through the planning process.

Physical Habitat Restoration: As noted above, the SAIC team will also assess the relative opportunity of each conveyance option to promote or retard the physical opportunities to restore high functioning habitat to promote ecological productivity in the Delta for covered species and their habitats. The evaluation will not identify any specific locations for restoration.

Other Conservation Elements: The SAIC team will also evaluate the relative ability of each of the four conveyance options to promote or retard the ability to address important other stressors on fish such as toxics, predation, entrainment, competition, food web, turbidity etc. Some of these conservation elements would be applicable equally to each of the four options; others may be affected differently by different Options. Hence, the SAIC team will seek also to evaluate the relative opportunity to address other stressors under each Option.

Options Evaluation Report: The SAIC team will prepare an Options Evaluation Report that:

- summarizes evaluation results
- describes the purpose of the report;
- describes Options configurations, flow assumptions, and other key assumptions;
- describes evaluation methods;
- describes evaluation results for each Option and each flow scenario evaluated;
- compares the relative ability of each Option to meet the evaluation criteria; and
- identifies the relative opportunities for restoring physical habitat and implementing other conservation elements to address important stressors under each of the Options.